R E P O R T R E S U M E S

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AN ASSESSMENT AND COMPARISON OF SELECTED CHARACTERISTICS AMONG CULTURALLY DISADVANTAGED HEADSTART CHILDREN (SUMMER PROGRAM 1965), CULTURALLY DISADVANTAGED NON-HEADSTART CHILDREN, AND NON-CULTURALLY DISADVANTAGED CHILDREN. (TITLE SUPPLIED).

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THIS STUDY IS AN ATTEMPT TO DETERMINE AND COMPARE THE STATUS AND DEGREE OF CHANGE IN SELECTED EDUCATIONAL CHARACTERISTICS AMONG THREE GROUPS OF CHILDREN WHO ENTERED CAMDEN, NEW JERSEY KINDERGARTEN IN SEPTEMBER 1965. THERE WERE 300 CHILDREN DIVIDED INTO THREE MAJOR GROUPS (1) 102 CHILDREN WHO PARTICIPATED IN THE SUMMER HEAD START PROGRAM, (2) 100 CHILDREN WHO DID NOT PARTICIPATE IN THE HEAD START PROGRAM AND WERE CULTURALLY DISADVANTAGED, AND (3) 98 CHILDREN WHO WERE NON-CULTURALLY DISADVANTAGED. THE AUTHOR CONCLUDES THAT PARTICIPATION IN HEAD START IS RELATED TO IMPROVEMENT IN CONCEPTUAL MATURITY, BUT NOT TO THE DEGREE THAT THE EFFECTS OF POVERTY ARE OVERCOME. TAKING THE RESULTS OF THE TESTS GIVEN THE CHILDREN IN NOVEMBER AND MAY OF THEIR KINDERGARTEN YEAR INTO CONSIDERATION, THE AUTHOR SUGGESTS THAT IT MIGHT BE CONSIDERED JUSTIFIABLE TO GROUP HEAD START CHILDREN INTO SEPARATE KINDERGARTEN CLASSES IN WHICH IT IS POSSIBLE TO TAKE FULLEST ADVANTAGE OF POSSIBLE LEARNING GAINS. (COD)

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AN ASSESSMENT AND COMPARISON OF SELECTED CHARACTERISTICS AMONG CULTURALLY DISADVANTAGED KINDERGARTEN CHILDREN WHO ATTENDED PROJECT HEADSTART (SUMMER PROGRAM 1965), CULTURALLY DISADVANTAGED KINDERGARTEN CHILDREN WHO DID NOT ATTEND PROJECT HEADSTART, AND KINDERGARTEN CHILDREN WHO WERE NOT CULTURALLY DISADVANTAGED

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AUGUST, 1966

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CHAPTER I

THE PROBLEM

I. INTRODUCTION AND STATEMENT OF THE PROBLEM

Approximately 900 culturally disadvantaged children attended Project Headstart, a preschool program of eight weeks duration. This program was sponsored by the Camden, New Jersey Board of Education in the summer of 1965, just prior to the entrance of the children into the city school kindergartens. Culturally disadvantaged children who attended Project Headstart represented more than half of the approximate 1500 children comprising the September, 1965, kindergarten enrollment in Camden. They also comprised approximately three-fourths of the total number of culturally disadvantaged children eligible for enrollment in Project Headstart, a federally subsidized program.

The following statements were selected from the listing of objectives for Project Headstart as found in the literature prepared by the Project Headstart office, Office of Economic Opportunity, Washington, D. C.

> ...In general, they [the children of the poor] have had neither the experience, the medical care, nor the opportunities of children from better circumstances. As a result many of these children enter school under a distinct handicap. They are so lacking in the most elementary experiences that often they cannot get the most out of school. To overcome the handicaps which hamper such children, it is important to learn what each child needs and to devise programs which meet any special needs.

It is essential that the following broad goals be uppermost in the planning of HEAD START Child Development Programs.

Improving the child's health.

Helping the child's emotional and social development by encouraging self-confidence, self-expression, self-discipline and curiosity.

Improving and expanding the child's ability to think, reason and speak clearly.

Helping children to get wider and more varied experiences which will broaden their horizons, increase their ease of conversation and improve their understanding of the world in which they live.

Giving the child frequent chances to succeed. Such chances may thus erase patterns of frustration and failure and especially the fear of failure.

Developing a climate of confidence for the child which will make him want to learn.

Increasing the child's ability to get along with others in his family and, at the same time, helping the family to understand him and his problems - thus strengthening family ties.

Developing in the child and his family a responsible attitude toward society and fostering feelings of belonging to a community.[1]

The present study was an attempt to determine and compare the status and the degree of change in status in selected educational characteristics among the three groups of children who entered the Camden, New Jersey kindergartens in September, 1965. This included those children who attended Project Headstart in the summer

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[1] Headstart Child Development Programs, An Invitation to Help, Office of Economic Opportunity, Washington, D. C., p. 11.

of 1965, those who were culturally disadvantaged and were eligible to attend but did not, and those who were not culturally disadvantaged and thus did not attend. An attempt was made to determine what relationship, if any, exists between participation in Project Headstart and achievement in the selected areas.

II. HYPOTHESES TO BE TESTED

The following hypotheses were investigated in the study:

1. Culturally disadvantaged children who participated in a summer Project Headstart program will score higher in measured characteristics at the beginning and the end of the kindergarten school year than culturally disadvantaged children who did not participate in the Project Headstart program.
2. No differences in selected educational characteristics will be found between culturally disadvantaged children who participated in a summer Project Headstart and non-culturally disadvantaged children at the beginning and end of the kindergarten school year.

III. DELIMITATIONS AND DEFINITIONS

A. Samples

1. The samples of the study include 300 kindergarten children in the Camden, New Jersey public schools during the school year 1965-66.
2. These children were divided into three major groups:

   Group A: Culturally disadvantaged children who attended a summer program of Project

Headstart prior to school entrance.

Group B: Culturally disadvantaged children who did not attend Project Headstart prior to school entrance.

Group C: Children who were not culturally disadvantaged.

3. Each of these major subject sample groups was divided into sub-groups:

Group A1: Culturally disadvantaged children who attended Project Headstart and were available for testing only in November of the school year (pre-testing) or in May (post-testing). Number of children: 16.

Group A2: Culturally disadvantaged children who attended Project Headstart and were available for testing in November of the scool year (pre-testing) and May (post-testing). Number of children: 86.

Geoup B1: Culturally disadvantaged children who did not attend Project Headstart and were available for testing only in November of the school year (pre-testing) or in May (post-testing). Number of children: 17.

Group B2: Culturally disadvantaged children who did not attend Project Headstart and were available for testing in November of the school year (pre-testing) and May (post-testing). Number of children: 83.

Group C1: Non-culturally disadvantaged children who were available for testing only in November of the school year (pre-testing) or in May (post-testing). Number of children: 18.

Group C2: Non-culturally disadvantaged children who were available for testing in November (pre-testing) and May (post-testing). Number of children: 79.

4. The designation of those who were culturally-disadvantaged was made by the Camden, New Jersey school district according to economic standards specified by the Federal Office of Economic Opportunity. For purposes of the study, the designation made by the local school district was followed without further investigation.

B. Procedures

1. Children in each of the three major subject sample groups were tested in the educational characteristics indicated below:

EDUCATIONAL CHARACTERISTICS

DEPENDENT VARIABLE	MEASURING INSTRUMENT
1. Conceptual maturity	Goodenough-Harris Drawing Test
2. Visual discrimination	Delaware County, Pa. Readiness Test
3. Auditory discrimination	Wepman Auditory Discrimination Test
4. Recognition vocabulary	Ammons Full-Range Picture Vocabulary Test
5. Articulation	Templin-Darley Test of Articulation

2. Because of moves to other schools or other classes, and absences, it was not possible to measure every child in each variable. As a result, there is variation in the size of the subject sample in each variable.
3. Data gathered in each variable from test administration in November of the school year were designated as pre-test scores. Data gathered in each variable from test administration in May of the school year were designated as post-test scores.
4. The following controls were attempted in the study:
   a. To reduce the influence of the kindergarten teachers on the children used in this study, where possible, the same teacher taught children in Groups A and B. This was not possible in Group C.

b. To broaden coverage, classes were chosen in schools in north, south and central Camden.

c. Children in Group A were selected from all four summer 1965 Camden Project Headstart Centers.

d. College students who did the testing were trained in the administration of the tests. In most cases, tests were administered individually. Where there was a question regarding the validity of a child's test score because of possible misunderstanding, the test was not included in the data.

e. To reduce scoring error, all of the tests in each area were marked by the same individual.

f. For consistency, all groups were tested at the same time, not consecutively, and pre-testing and post-testing were completed in the same one-month span of time for all of the three major groups.

5. The following assumptions were made in the study:

a. The term culturally disadvantaged designated by the school district has a common meaning for each of the children included in the subject samples to which it was applied.

b. Data gathered by the various measuring instruments reflect achievement by the subject samples in the indicated dependent variable.

c. The dependent variables included in the study are related to differences in environmental and experiential backgrounds.

IV. LIMITATIONS OF THE STUDY

1. While every effort was made to adequately prepare and supervise the college students who were involved in test administration, it is recognized that lack of full-time, specially trained examiners is a limitation of the study. Tests were administered by volunteers among the Junior and Senior Kindergarten -Primary and Elementary majors, college students in special speech courses, college students doing junior student teaching in the Camden School District, and graduate assistants of Glassboro State College, Glassboro, New Jersey. Supervision and training were provided by faculty members at Glassboro State College.
2. No effort was made to match groups according to race, occupation of parents, number of children in family, or other personal and socio-economic factors due to lack of available information. The school district indicated some possible lack of acceptance by the community if certain factors were injected into the study. This study is limited, therefore, to one independent variable (participation in Project Headstart) and the five dependent variables, considered educational characteristics. To the degree that other variables may influence achievement and changes in achievement, the findings may be affected.
3. Conditions under which the tests were administered varied from school to school. In some buildings,

children were tested in vacant classrooms with no distractions. In other buildings, children took tests in hallways, basements, and corners of their kindergarten rooms. The possibility exists that a poor testing environment may have influenced the findings.

4. It is possible that the effects of attending Project Headstart in the summer prior to entering kindergarten may not be measurable in the first year in school or may not be measured by the tests used in the study. Results of participation in Project Headstart may show in succeeding school years and/or in ways not considered in this study. Data gathered in this study indicated findings related only to certain variables as determined by the instruments used and do not reflect other possible areas of change or growth which could indicate success in meeting objectives of the Project Headstart program.
5. The Camden, New Jersey school district extended its cooperation in many ways, including organizing kindergarten enrollment along lines required for the study. It was impossible to balance district registration needs so that an equal number of children attended kindergarten in the morning session and in the afternoon session. As a result, time of day in which the children attended kindergarten was not controlled and could be an influencing factor.

CHAPTER II

DESIGN OF THE STUDY

I. DESCRIPTION OF THE SUBJECT SAMPLES

The subject samples consisted of 300 kindergarten children who lived in the Camden, New Jersey public school district and who attended public school kindergarten during the school year 1965-66. They were divided into three major groups used in the study (Groups A,B,C) according to whether they were considered culturally disadvantaged by the school district and whether they had attended Project Headstart during the summer immediately prior to their entrance into school.

Table 1 shows the distribution of the subject samples by group and sex.

TABLE 1

DISTRIBUTION OF SUBJECT SAMPLES BY GROUP AND SEX

	Group A	Group B	Group C	Total
MALE	44	46	53	143
FEMALE	58	54	45	157
TOTAL	102	100	98	300

The size of each group varies in the pre-testing (tests administered in November) and post-testing (tests administered in May). Table 2 indicates the distribution of the subject samples by group and by time of testing.

TABLE 2

DISTRIBUTION OF SUBJECT SAMPLES
BY GROUP AND TIME OF TESTING

	Group A	Group B	Group C	Total
PRE-TEST ONLY (Sub-group 1)	16	15	18	49
POST-TEST ONLY	0	2	1	3
PRE-TEST AND POST-TEST (Sub-group 2)	86	83	79	248
TOTAL PRE-TEST	102	98	97	297
TOTAL POST-TEST	86	85	80	251

The subject samples attended 12 classes in seven elementary schools located in the school district of Camden, New Jersey (Table 3). Since kindergarten classes are held in half day sessions, attendance in either a morning or afternoon session was possible.

It should be noted that the school district found it necessary, in general, to schedule children who had attended Project Headstart into morning kindergarten classes, and those who did not, into afternoon classes (Table 3A).

TABLE 3

DISTRIBUTION OF SUBJECT SAMPLES BY GROUP AND SCHOOL

SCHOOL	NO. OF CLASSES	GROUP A	GROUP B	GROUP C	TOTAL
1	2	32	19	0	51
2	2	24	28	0	52
3	2	27	28	0	55
4	1	14	9	0	23
5	1	5	16	0	21
6	2	0	0	52	52
7	2	0	0	46	46
TOTAL	12	102	100	98	300

TABLE 3A

DISTRIBUTION OF SUBJECT SAMPLES BY GROUP AND TIME OF KINDERGARTEN CLASS

	GROUP A	GROUP B	GROUP C	TOTAL
MORNING CLASS	77	4	49	130
AFTERNOON CLASS	25	96	49	170
TOTAL	102	100	98	300

While all children met the local age requirements for attendance in the Camden public kindergartens in September, 1965, data were gathered on the age of the subject samples. Table 4 indicates the mean and standard deviation of the ages of the subject samples by sub-groups.

TABLE 4

AGE OF SUBJECT SAMPLES BY SUB-GROUPS

	N*	MEAN AGE** (in months)	STANDARD DEVIATION**
SUB-GROUP			
A1 (Pre-test only)	16	67.69	7.95
A2 (Pre- and post-tests)	86	66.81	3.45
B1 (Pre-tests only and 2 with post-tests only)	17	67.65	3.25
B2 (Pre- and post-tests)	83	67.30	3.47
C1 (Pre-tests only and 1 post-test only)	19	66.74	3.43
C2 (Pre- and post-test)	79	67.09	3.57
TOTAL	300		

* N- number of cases

**All numbers have been rounded to the nearest hundredth

Effort was made to compare the record of attendance among the subject samples. Table 5 lists the mean and standard deviation of days present by sub-groups, including in each group only those who were enrolled for the entire school year of 181 total possible days. Data were gathered from teachers' attendance registers.

TABLE 5

ATTENDANCE (DAYS PRESENT) OF

SUBJECT SAMPLES BY SUB-GROUP

SUB-GROUP	N*	MEAN NO. OF DAYS PRESENT**	STANDARD DEVIATION**
A1	12	143.25	26.50
A2	85	160.81	14.23
B1	14	140.00	40.26
B2	82	160.71	16.05
C1	17	158.11	11.33
C2	76	162.43	3.58

*N - number of cases

**All numbers have been rounded to the nearest hundredths

By comparing the size of N in the subgroups in Table 5 and the size of N in the subgroups of Table 4, the number of subject samples who were not enrolled for the entire year in each of the sub-groups is obtained (Table 5A).

TABLE 5A

DISTRIBUTION OF SUBJECT SAMPLES NOT ENROLLED FOR ENTIRE YEAR BY SUB-GROUPS

	N* Table 4	N* Table 5	Not enrolled for Entire Year
A1	16	12	4
A2	86	85	1
B1	17	14	3
B2	83	82	1
C1	19	17	2
C2	79	76	3
TOTAL	300		

*N - number of cases

II. THE DATA GATHERING INSTRUMENTS

A. FACTORS INFLUENCING CHOICE OF INSTRUMENTS

Several problems were present which influenced the choice of data-gathering instruments:

1. The age of the subject samples was such that simple, interesting, and short tasks were necessary. Attention span was short, and ability to follow directions was limited. Reading and writing skills were not developed. Measuring instruments were needed that depend on signaling, oral response, or drawing.
2. The type of population being sampled suggested that instruments should be used which had norms by age if possible, rather than just by grade. The six-year-old culturally disadvantaged kindergarten child may well be treated unfairly in norms based on the average six-year-old first grader. This factor particularly influenced the choice of the instrument for measuring visual discrimination and the decision to use only the raw scores in the Goodenough-Harris Drawing Test.
3. Previous related research also influenced the choice of instruments. For example, Templin's study[2] in which the Ammons Picture Vocabulary Test was used and in which the Templin-Darley Test of Articulation was developed,

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[2] Mildred C. Templin, Certain Language Skills in Children (Institute of Child Welfare Monograph Series, No. 26). Minneapolis: University of Minnesota Press, 1957.

presented findings by economic class, suggesting areas for contrast with groups now categorized as culturally disadvantaged.

4. Ease of administration with no specialized training required was another consideration, since trained examiners were not available.

B. THE TEMPLIN-DARLEY TEST OF ARTICULATION[3]

There are 176 items in the Templin-Darley Diagnostic Test. The screening test, which consists of the first 50 items, was used in the study to assess the general adequacy of articulation among the groups of subject samples. It tests only those sounds and sound combinations which are associated with progress in the development of articulation. In contrast, the total diagnostic test is designed to guide a speech correction program.

The test calls for each child to produce the sound element by saying a word which names a picture presented by the examiner. In using this picture articulation test, as the examiner shows each picture he has the choice of (1) attempting to elicit the desired test word spontaneously by asking the child to name the object pictured or to answer some simple question or (2) saying the test word and having the child repeat it after him. The former procedure may be called a "spontaneous method", the latter, an "imitative method". Studies on the comparability of results of testing using these two methods are somewhat contradictory. Templin concluded, however, that

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[3] TEMPLIN-DARLEY TEST OF ARTICULATION, Mildred C. Templin and Frederic L. Darley, Bureau of Education Research and Service, Extension Division State University of Iowa, Iowa City, Iowa.

"...Since neither the spontaneous nor imitative method is superior, the method best adapted to the needs of a specific child can be used".[4] In the present study, the spontaneous method was used first. When the child could not name the picture or answer the questions which served as clues, the imitative method was used.

This test was administered by Glassboro College students enrolled in a speech correction course. Training for administering and recording responses was provided in class. Responses were categorized into five areas:

1. Correct production of the sound
2. Substitution of another phoneme for the sound
3. Omission of the sound
4. Distortion of the sound
5. No response

The total number of correctly produced sounds was obtained and included in this study for analysis and comparison with norms.

C. THE WEPMAN AUDITORY DISCRIMINATION TEST[5]

This test was used to determine the ability to recognize fine differences that exist between the phonemes used in English speech. It is a measure of the ability to hear accurately; no visual ability is needed. The child is asked to listen to the examiner read pairs

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[4] Mildred C. Templin, "Spontaneous Versus Imitated Verbalization in Testing Articulation in Preschool Children." Journal of Speech Disorders, 12, 1947, pp. 299-300.

[5] WEPMAN AUDITORY DISCRIMINATION TEST, Joseph M. Wepman, Ph.D., 950 E. 59th Street, Chicago 37, Illinois.

of words and to indicate whether the words were the same (a single word repeated) or different (two different words) by nodding his head affirmatively or negatively, or saying "same" or "different" or "yes" or "no". The test consists of 30 pairs of words differing in a single phoneme in each pair, and ten word-pairs which do not differ, as false choices. Comparisons are made between 13 initial consonants, 13 final consonants, four medial vowels, and 10 false choices.

The 30 pairs of words in which a phoneme differs yield an X score. The ten word-pairs considered false choices yield a Y score. The errors are added in the X column, representing the number of times the child has indicated SAME to word-pairs that are different. The total of errors in the Y column represented the number of times the child has indicated DIFFERENT when he should have indicated SAME.

The test generally calls for putting aside as invalid all tests with X scores greater than 15 or Y scores greater than 3 since these scores may indicate a hearing defect, poor motivation or disregard of instructions. However, the test manual suggests that children of lower intelligence or those with very poor discrimination may also make these scores. Because of these possibilities, no score was put aside as invalid in the study. If a test was completed, the score was included. Examiners were instructed to be sure that each child understood the directions by administering 3 or 4 sample items prior to scoring the test items. When a child indicated that he could not understand what to do, or did not know what SAME or DIFFERENT meant, he did not complete the test and thus, no score was available for him.

This test was administered individually.

D. THE DELAWARE COUNTY (PA.) FIRST GRADE READINESS TEST[6]

Only one of the sub-tests of the Delaware County Readiness Test was used in this study. The test of visual discrimination was used to measure ability to see likenesses and differences among shapes, letters, and words. The child is asked to look at and circle the first item in a row, look across the row at the other four items, and place a circle around the item that is the same as the first in the row.

A weighted score is assigned for each of the ten rows. Total raw score is 50. The raw score is converted to a Readiness Index[7], indicating prognosis for success in beginning reading.

Readiness Prognosis 1 - Not ready; referral

Readiness Prognosis 2 - Not ready; informal readiness activities recommended

Readiness Prognosis 3 - Normal; full readiness program recommended

Readiness Prognosis 4 - Nearly ready; limited readiness program recommended

Readiness Prognosis 5 - Ready for reading

This test, in most cases, was administered individually. At times, particularly during the post-testing (May), it was possible to administer the test to two or three children at a time. Examiners were instructed to use a blank piece of paper as a marker to help

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6 DELAWARE COUNTY FIRST GRADE READINESS TEST, Walter M. Rhoades, Delaware County, Pennsylvania.

7 Based upon study of 4,533 children tested in spring prior to entrance into first grade 1963 and 5,475 children tested in 1962.

the children stay on the correct row. Where necessary, they were also instructed to help children locate the first item in the row (at left of page) so there would be no confusion regarding the correct stimulus item.

Data in the study are presented in both raw scores and readiness indices.

E. THE AMMONS FULL-RANGE PICTURE VOCABULARY TEST[8]

This test was used as a measuring instrument to determine the level of the recognition vocabulary of the subject samples, i.e., those words, used by others, that the child can recognize when presented in picture form. This test does not yield a use vocabulary level, i.e., words that a child uses in everyday speech.

The child points to the best picture among the four on a card to show what a word, given by the examiner, means. Words on a card are given until three point-levels are passed consecutively and three failed. Point-levels are given on the answer form after each word and represent the approximate mental age at which 50% of a representative population would fail the word.

The number of items answered correctly was counted for each card. They were totaled and treated as the recognition vocabulary raw score. Equivalent mental ages were determined from a table of norms, with interpolation made where necessary. Data from this table are represented in the study as the recognition vocabulary - mental age.

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[8] AMMONS FULL-RANGE PICTURE VOCABULARY TEST, R. B. Ammons and H. S. Ammons, Box 1441, Missoula, Montana.

This test was administered individually by two examiners, one recording the response and one giving the stimulus word.

F. THE GOODENOUGH-HARRIS DRAWING TEST[9]

This test was used to determine conceptual maturity as part of the intellectual maturity of the subject samples. Children were asked to draw a picture of a man and of a woman and of themselves. In the study, results were analyzed from the man and woman drawings only.

The point scale (total possible Man-73; total possible Woman-71) was then used to determine scores. Each item scored as pass or fail, according to scoring rules in the manual. The raw scores, reported in the study, for the Man drawing and for the Woman drawing represent the sum of the items credited.

Examiners found it possible to administer this test to two or three children at one time.

III. TREATMENT OF THE DATA

Data for each variable were obtained from scores from each of the measuring instruments and organized for:

a. analysis of differences of the means by time of testing (pre-test and post-test) and by groups

b. analysis of variance

Data were processed on an IBM 1620 Computer at the Temple University Computer Center. The following computer programs

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9 GOODENOUGH-HARRIS DRAWING TEST, Dale B. Harris, Harcourt, Brace and World, Inc., New York, 1963.

were used in the study:

1. Means and standard deviations - MEAN AND STANDARD DEVIATION PROGRAM (no program number assigned)

2. Analysis of variance - ANALYSIS OF VARIANCE - UNEQUAL SUBCLASS FREQUENCIES-FORTAN (Program number 6.0. 110)

For each variable, a critical ratio was computed to test significance of differences between means for groups A2 and B2, A2 and C2, and B2 and C2. Confidence levels, in turn, were established according to the CR.

CHAPTER III

ANALYSIS OF THE DATA

I. GROUP MEANS AND STANDARD DEVIATIONS

A. Articulation

Scoring directions for the 50 item screening test (Templin-Darley Test of Articulation) suggest a cut-off score of 31 for five-year-olds and 34 for six-year-olds to indicate the point separating adequate from inadequate performance at these ages. Examination of Tables 6 and 7, which present scores earned in pre-testing and post-testing, indicates that the mean scores of all three groups are above the cut-off points appropriate for the age groups in the study.

TABLE 6

MEANS AND STANDARD DEVIATIONS OF

PRE-TEST ARTICULATION SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	60	37.75	9.85
B2	66	39.06	8.64
C2	70	40.94	12.14

*CRITICAL RATIOS

CR A2 and B2 = 0.80
CR A2 and C2 = 1.65
CR B2 and C2 = 1.03

TABLE 7

MEANS AND STANDARD DEVIATIONS OF

POST-TEST ARTICULATION SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	70	40.07	9.03
B2	63	42.71	6.04
C2	69	45.75	5.52

*CRITICAL RATIOS

CR A2 and B2 = 2.00
CR A2 and C2 = 4.47
CR B2 and C2 = 3.01

A critical ratio was computed to determine the significance of differences between the means of the groups. In the pre-test scores, only the differences between A2 and C2 are significant at the .10 level. All differences in post-test scores are significant:

Between A2 and B2, at greater than the .05 level

Between A2 and C2, at greater than the .001 level

Between B2 and C2, at greater than the .01 level

When comparing these scores with norms suggested by Templin for the lower socio-economic class, similarity between norms and findings of this study can be noted (Table 7A).

TABLE 7A

COMPARISON OF TEMPLIN NORMS (LOWER SE CLASS)*

AND SCORES FOR GROUPS A2 AND B2

	PRE-TEST		POST-TEST	
	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION
A2	37.75	9.85	40.07	9.03
B2	39.06	8.64	42.71	6.04
TEMPLIN LOWER SE NORMS C.A.5	36.0	14.8	36.0	14.8
TEMPLIN LOWER SE NORMS C.A.6	38.8	14.6	38.8	14.6

* Mildred C. Templin and Frederic L. Darley, The Templin-Darley Tests of Articulation (Iowa City, Iowa: State University of Iowa, 1960), p. 18.

B. Auditory Discrimination

Data gathered by the Wepman Auditory Discrimination Test yielded an X score, indicating the number of errors made when unlike phonemes were considered as like phonemes. Norms suggested by the test manual indicate inadequate development in auditory discrimination for five-year-olds as X errors greater than six and for six-year-olds as X errors greater than five. However, these norms were not standardized on a population including kindergarten children. There would seem to be some reasonable

question about applying these norms to the sample in this study.

The Y score yielded by this instrument (errors of calling like phonemes unlike) was not used as a criterion of validity as suggested in the test manual. Test directions called for eliminating all test scores having a Y score greater than three. In this study, all test scores were included if the child was able to understand directions and complete the test. With the difficulties encountered in administering this test, it was felt that Y scores would indicate the child's ability to recognize like phonemes.

Since the norms suggested may be inapplicable in this study, no effort was made to analyze the available data in terms of adequate or inadequate development of auditory discrimination. Rather, data were gathered with reference to differences among the three major groups of kindergarten children of the study. (Table 8 and Table 8A for pre-test scores. Table 9 and Table 9A for post-test scores.)

Pre-test and post-test means were tested for significance of difference. No CR for pre-test means was found significant at the .05 level.

The difference between the post-test means of Groups A2 and C2 is significant at the .01 level, and between B2 and C2 is significant at the .01 level. No significant difference was found between the means of A2 and B2. This would seem to indicate that mean differences between the A and B groups may be due to chance.

TABLE 8

MEANS AND STANDARD DEVIATIONS OF PRE-TEST

AUDITORY DISCRIMINATION X ERROR SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	72	14.01	8,88
B2	70	13.49	7.93
C2	53	11.98	8.55

*CRITICAL RATIOS

CR A2 and B2 = 0.37
CR A2 and C2 = 1.57
CR B2 and C2 = 1.00

TABLE 8A

MEANS AND STANDARD DEVIATIONS OF PRE-TEST

AUDITORY DISCRIMINATION Y ERROR SCORES

GROUP	NUMBER OF CHILDREN	MEAN	STANDARD DEVIATION
A2	72	3.56	3.27
B2	70	3.07	3.10
C2	53	2.34	3.25

TABLE 9

MEANS AND STANDARD DEVIATIONS OF POST-TEST

AUDITORY DISCRIMINATION X ERROR SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	67	15.01	9.15
B2	60	14.82	7.47
C2	51	10.08	7.96

*CRITICAL RATIOS

CR A2 and B2 = 0.11
CR A2 and C2 = 3.12
CR B2 and C2 = 3.22

TABLE 9A

MEANS AND STANDARD DEVIATIONS OF POST-TEST

AUDITORY DISCRIMINATION Y ERROR SCORES

GROUP	NUMBER OF CHILDREN	MEAN	STANDARD DEVIATION
A2	67	2.33	3.35
B2	60	2.15	3.54
C2	51	1.53	2.33

C. Visual Discrimination

Data available from the Delaware County (Pa.) Readiness Test were analyzed by raw scores and readiness index. (Pre-test scores are presented in Tables 10 and 10A; post-test scores, in Tables 11 and 11A.)

TABLE 10

MEANS AND STANDARD DEVIATIONS OF PRE-TEST

VISUAL DISCRIMINATION RAW SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	79	9.43	8.62
B2	56	11.00	8.60
C2	54	16.91	10.48

*CRITICAL RATIOS

CR A2 and B2 = 1.05
CR A2 and C2 = 4.32
CR B2 and C2 = 3.23

TABLE 10A

MEANS AND STANDARD DEVIATIONS OF PRE-TEST

VISUAL DISCRIMINATION READINESS INDICES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	79	1.65	.85
B2	56	1.70	.85
C2	54	2.22	.90

* Since scores for this table were obtained from scores in Table 10, no CR's were computed.

TABLE 11

MEANS AND STANDARD DEVIATIONS OF POST-TEST

VISUAL DISCRIMINATION RAW SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	73	18.10	9.25
B2	57	18.12	9.42
C2	52	22.33	10.75

*CRITICAL RATIOS

CR A2 and B2 = 0.01
CR A2 and C2 = 2.29
CR B2 and C2 = 2.18

TABLE 11A

MEANS AND STANDARD DEVIATIONS OF POST-TEST

VISUAL DISCRIMINATION READINESS INDICES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	73	2.36	.80
B2	57	2.32	.77
C2	52	2.70	.80

* Since scores for this table were obtained from scores in Table 11, no CR's were computed.

The differences between the pre-test means of Groups A and C and B and C were significant at the .001 and .01 level, respectively. The differences between the post-test means of these groups were significant at the .05 level.

No significant difference was found between the pre-test means or post-means of Groups A and B. It should be noted that a comparison of the pre- and post-test means for each group indicates that Group A showed the greatest difference between mean score-November and mean score - May.

Comparison of test results with norms indicate from May index scores that all three groups of children have children in Index 1, 2, and 3.

D. Recognition Vocabulary

The Ammons Full-Range Picture Vocabulary Test yielded data as raw scores and equivalent mental age scores. Pre-test vocabulary raw scores and mental-age scores are listed in Tables 12 and 12A; post-test vocabulary raw scores and mental age scores in Tables 13 and 13A.

Critical ratios for the differences of pre-test means between Groups A and C and Groups B and C are significant at the .001 level. The difference between the pre-test means of Groups A and B are not significant at the .10 level. Only the differences between the post-test means of Groups A and C are significant at the .10 level. Other post-test differences between means are not significant at the .10 level.

TABLE 12

MEANS AND STANDARD DEVIATIONS OF PRE-TEST VOCABULARY RAW SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	71	21.23	5.95
B2	43	21.63	4.96
C2	53	26.26	6.22

*CRITICAL RATIOS

CR A2 and B2 = 0.39
CR A2 and C2 = 4.53
CR B2 and C2 = 4.06

TABLE 12A

MEANS AND STANDARD DEVIATIONS OF PRE-TEST VOCABULARY EQUIVALENT MENTAL AGE SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	71	59.52	30.29
B2	43	57.07	12.13
C2	53	68.30	15.15

* Since scores for this table were obtained from scores in Table 12, no CR's were computed.

TABLE 13

MEANS AND STANDARD DEVIATIONS OF POST-TEST VOCABULARY RAW SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	48	25.67	4.37
B2	30	26.73	4.35
C2	48	27.52	6.24

* CRITICAL RATIOS

CR A2 and B2 = 1.05
CR A2 and C2 = 1.68
CR B2 and C2 = 0.66

TABLE 13A

MEANS AND STANDARD DEVIATIONS OF POST-TEST VOCABULARY EQUIVALENT MENTAL AGE SCORES

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	48	66.92	10.93
B2	30	69.57	10.86
C2	48	71.50	15.29

* Since scores for this table were obtained from scores in Table 13, no CR's were computed.

E. Conceptual Maturity

Separate data were analyzed from the Goodenough-Harris Drawing Test for the man drawing and the woman drawing. Tables 14 and 15 present pre-test raw scores for the man and woman drawing; Tables 16 and 17, post-test raw scores for the man and woman drawing.

TABLE 14

MEANS AND STANDARD DEVIATIONS OF PRE-TEST GOODENOUGH-HARRIS DRAWING TEST RAW SCORES MAN DRAWING

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	83	10.06	4.63
B2	79	8.81	3.43
C2	75	11.92	3.87

*CRITICAL RATIOS

CR A2 and B2 = 1.96
CR A2 and C2 = 2.75
CR B2 and C2 = 5.26

TABLE 15

MEANS AND STANDARD DEVIATIONS OF PRE-TEST GOODENOUGH-HARRIS DRAWING TEST RAW SCORES WOMAN DRAWING

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	83	9.58	4.75
B2	79	9.42	3.92
C2	75	12.64	3.99

*CRITICAL RATIOS

CR A2 and B2 = 0.23
CR B2 and C2 = 4.40
CR B2 and C2 = 5.05

TABLE 16

MEANS AND STANDARD DEVIATIONS OF POST-TEST

GOODENOUGH HARRIS DRAWING TEST SCORES

MAN DRAWING

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	71	11.35	4.97
B2	74	9.91	3.13
C2	59	12.81	4.56

* CRITICAL RATIOS

CR A2 and B2 = 2.08
CR A2 and C2 = 1.74
CR B2 and C2 = 4.17

TABLE 17

MEANS AND STANDARD DEVIATIONS OF POST-TEST

GOODENOUGH-HARRIS DRAWING TEST SCORES

WOMAN DRAWING

GROUP	NUMBER OF CHILDREN	MEAN*	STANDARD DEVIATION
A2	71	11.51	4.88
B2	74	9.96	3.81
C2	58	13.28	4.69

*CRITICAL RATIOS

CR A2 and B2 = 2.13
CR A2 and C2 = 2.09
CR B2 and C2 = 4.37

For the man drawing pre-test, tests for significance of difference between group means indicate all differences are significant. Between Groups A2 and B2 the difference is significant at the .05 level; between Groups A2 and C2 the difference is significant at the .01 level; between Groups B2 and C2 the difference is significant at the .001 level.

For the woman drawing pre-test scores, differences between the means of Groups A2 and B2 are not significant. Differences between Groups A2 and C2 and between Groups B2 and C2 are significant at the .001 level.

For post-test man drawing scores, differences between the means of Groups A2 and B2 are significant at the .05 level. Between Groups A2 and C2 they are significant at the .10 level and between Groups B and C, at the .001 level.

Post-test woman drawing scores show significant differences between means for all groups. For Groups A2 and B2, significance is established at the .05 level; for Groups A2 and C2, at the .05 level; for Groups B2 and C2, at the .001 level.

F. SUMMARY AND ANALYSIS OF GROUP MEAN SCORES AND STANDARD DEVIATIONS

Table 18 presents a summary of pre-test and post-test scores for the five dependent variables measured in the study for Groups A2 and B2.

TABLE 18

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUPS A2 AND B2

	PRE-TEST			POST-TEST		
	Means	Standard Deviations	Confidence Level* of Significance of Difference between Means	Means	Standard Deviations	Confidence Level* of Significance of Difference between Means
Articulation						
A2	37.75	9.85	none	40.07	9.03	.05
B2	39.06	8.64		42.71	6.04	
Auditory Discrimination (error score)						
A2	14.01	8.88	none	15.01	9.15	none
B2	13.49	7.93		14.82	7.47	
Visual Discrimination						
A2	9.43	8.62	none	18.10	9.25	none
B2	11.00	8.60		18.12	9.42	
Recognition Vocabulary						
A2	21.23	5.95	none	25.67	4.37	none
B2	21.63	4.96		26.73	4.35	
Conceptual Mat'y. (Man)						
A2	10.06	4.63	.05	11.35	4.97	.05
B2	8.81	3.43		9.91	3.13	
Conceptual Mat'y. (Woman)						
A2	9.58	4.75	none	11.51	4.88	.05
B2	9.42	3.92		9.96	3.81	

* Those which did not reach the .10 level are reported as <u>none</u> (not significant).

Analysis of Table 18 reveals that Group A2 (culturally disadvantaged with Project Headstart) scored higher, according to group means, on only the Goodenough-Harris Drawing Test. Other than in articulation, the only differences between the means that were found to be significant were in the man drawing of the Goodenough-Harris Drawing Test at both pre-testing and post-testing and in the woman drawing, post-testing only. This would seem to indicate that the only dependent variable in which the Project Headstart kindergarten children scored significantly higher than the non-Project Headstart culturally disadvantaged children at both the beginning and end of the kindergarten year was conceptual maturity as measured by the Goodenough-Harris Drawing Test.

It should be noted, also, that point differences between pre-test and post-test scores are relatively consistent for both groups, except in visual discrimination where the Project Headstart group almost doubled its score, exceeding the gain for the B2 group. Conceptual maturity woman drawing scores also indicate a point gain difference in favor of the Project Headstart group.

It is interesting to note that another difference between the means that is significant was found in articulation post-test scores, in favor of the B2 group (culturally disadvantaged children without Project Headstart). Discussion of this finding is incorporated in the section on conclusions.

Table 19 presents summarizing data comparing Groups A2 and C2.

TABLE 19

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUPS A2 AND C2

	PRE-TEST			POST-TEST		
	Means	Standard Deviations	Confidence Level* of Significance of Difference between Means	Means	Standard Deviations	Confidence Level* of Significance of Difference between Means
Articulation						
A2	37.75	9.85	.10	40.07	9.03	.001
C2	40.94	12.14		45.75	5.52	
Auditory Discrimination (error score)						
A2	14.01	8.88	none	15.01	9.15	.01
C2	11.98	8.55		10.08	7.96	
Visual Discrimination						
A2	9.43	8.62	.001	18.10	9.25	.05
C2	16.91	10.48		22.33	10.75	
Recognition Vocabulary						
A2	21.23	5.95	.001	25.67	4.37	.10
C2	26.26	6.22		27.52	6.24	
Conceptual Maturity-Man						
A2	10.06	4.63	.01	11.35	4.97	.10
C2	11.92	3.87		12.81	4.56	
Conceptual Maturity-Woman						
A2	9.58	4.75	.001	11.51	4.88	.05
C2	12.64	3.99		13.28	4.69	

* Those which did not reach the .10 level are reported as <u>none</u> (not significant).

It can be noted from Table 19 that the C2 group (non-culturally disadvantaged kindergarten children) scored higher in all areas in both pre-testing and post-testing than the A2 group. All but one of these differences were significant.

Although the means for the A group were consistently different from those for the C group, some trends should be noted. The least point difference between the means of the groups is found in conceptual maturity; the greatest, in pre-test visual discrimination. The point difference in visual discrimination, however, decreased by half in the post-testing between the two groups. The point difference in recognition vocabulary also decreased by half from the pre-testing to the post-testing. The point difference in auditory discrimination, however, increased from pre-testing to post-testing.

Table 20 reveals that the means of the C2 group are higher in all variables in both pre-testing and post-testing. Two pre-test and one post-test mean differences were not significant, however. Findings in conceptual maturity in Table 18 and 19 are again indicated by Table 20, where the point difference between the means of B2 and C2 is greater than between A2 and C2 and is maintained in the post-testing, not decreased. This difference seems to increase in the woman drawing pre-test and post-test scores.

The greatest point difference decrease in pre-test and post-test mean scores is noted in recognition vocabulary, where only approximately 1 point difference is found between the post-test means. This difference, however, was not significant at any acceptable level and therefore, could be due to chance.

Table 20 summarizes data for Groups B2 and C2.

TABLE 20

MEANS, STANDARD DEVIATIONS, AND SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS FOR GROUPS B2 AND C2

	PRE-TEST			POST-TEST		
	Means	Standard Deviations	Confidence Level* of Significance of Difference between Means	Means	Standard Deviations	Confidence Level* of Significance of Difference between Means
Articulation						
B2	39.06	8.64	none	42.71	6.04	.01
C2	40.94	12.14		45.75	5.52	
Auditory Discrimination (error score)						
B2	13.49	7.93	none	14.82	7.47	.01
C2	11.98	8.55		10.08	7.96	
Visual Discrimination						
B2	11.00	8.60	.01	18.12	9.42	.05
C2	16.91	10.48		22.33	10.75	
Recognition Vocabulary						
B2	21.63	4.96	.001	26.73	4.35	none
C2	26.26	6.22		27.52	6.24	
Conceptual Maturity - Man						
B2	8.81	3.43	.001	9.91	3.13	.001
C2	11.92	3.87		12.81	4.56	
Conceptual Maturity - Woman						
B2	9.42	3.92	.001	9.96	3.81	.001
C2	12.64	3.99		13.28	4.69	

*Those which did not reach the .10 level are reported as none (not significant)

II ANALYSIS OF VARIANCE

An analysis of variance was computed for each of the variables. No values of F were found to be significant, even at the .10 level. Results are reported in Table 21.

TABLE 21

ANALYSIS OF VARIANCE OF THE TEST SCORES INCLUDED IN THE STUDY

Variable	F*
Articulation	.70
Auditory Discrimination (X scores)	.13
Auditory Discrimination (Y scores)	.13
Visual Discrimination (Raw scores)	.79
Vocabulary (Raw Scores)	.13
Vocabulary (Mental Age Scores)	.55
Conceptual Maturity (Man-Drawing)	.34
Conceptual Maturity (Woman-Drawing)	.12

* All F ratios yielded $P > .10$

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

I. CONCLUSIONS

The findings of the study suggest the following conclusions, within the limitations already stated (see Chapter 1):

A. Hypothesis 1 states that culturally disadvantaged children who attended a summer Project Headstart (Group A2) will score higher in the measured characteristics at the beginning and end of the kindergarten year than culturally disadvantaged children who did not (Group B2).

This hypothesis seems untenable except in one measured characteristic. Conceptual maturity, as measured by the Goodenough-Harris Drawing Test, reflected a significantly higher score for the Project Headstart group in November and in May. No other variable yielded such findings. It would seem safe to conclude that this is a valid difference between the two groups. It should be noted that the A2 group was administered the Draw-A-Man test during the Project Headstart program, but that at least three months' interval took place between the final drawing in the summer and the November pre-testing; a six-month period lapsed between the pre-testing and post-testing. It would seem unlikely that children of this age would retain a practice effect over these time spans. With this assumption the hypothesis can be accepted for conceptual maturity and rejected for other variables measured in the study.

B. Hypothesis 2 stated that there will be no significant differences in the measured variables between children who attended Project Headstart and children who are not culturally disadvantaged at the beginning and end of the kindergarten year.

The summary of the findings relating to Group A2 and C2 of the study (Table 19) rejects this hypothesis. Non-culturally disadvantaged children scored significantly higher in all measured variables than the culturally disadvantaged kindergarten children (Group A or Group B), although some differences were almost not significant. Interpretation of the results would seem to indicate that participation in Project Headstart is related to improvement in conceptual maturity, but not to the degree that the effects of poverty are overcome. It could undoubtedly be reasoned than an eight week compensatory program could not logically be equal to five or six years of a more advantaged educational environment.

II. IMPLICATIONS AND RECOMMENDATIONS

A. The findings

In exploring these results it would seem worthwhile to examine the findings in light of the importance or contribution of the Project Headstart program. If attendance in an eight week summer program is related to improving skill in identifying, comparing, abstracting and generalizing objects (the definition of concept formation)[10] then it would seem both important and valuable for the program to continue. Much of the later learnings associated with the primary grades in the area of language development will tend to build upon the child's understanding of an object. He will,

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[10] Dale B. Harris, Childrenb Drawings As Measures of Intellectual Maturity, New York: Harcourt, Brace and World, Inc., 1963, p.6.

it is hoped, want to talk about an object, read about it, and write about it. Promoting growth and maturity in the ability to form correct and broadened concepts would appear to be a fundamental goal and a worthwhile accomplishment.

It should be recognized that longitudinal studies are needed to provide the data to understand the relationship between attendance in Project Headstart, growth in conceptual maturity, and future success and adjustment in school.

B. The Measuring Instruments

Subjective evaluation of the various measuring instruments based upon experience administering the tests would preclude recommending some for use again with these subject samples. Several of the instruments seemed to present many difficulties for the children. It would seem appropriate to mention some of the difficulties encountered in administering the tests in the study and some of the subjective observations made by the examiners.

1. The Ammons Full-Range Picture Vocabulary Test seemed to promote guessing. This may have been due to the order in which the pictures were placed on each card, or to the quality of the art.
2. The Wepman Auditory Discrimination Test also seemed to promote guessing. Many children had difficulty with the concept of "same" or "different". Many seemed to lose interest before the test was completed.
3. The task required in the DelawareCounty (Pa.) Readiness Test (staying on a line) was particularly difficult for many children

during the pre-test. There was noticeable improvement in the post-testing. This may suggest the need for visual discrimination testing that does not call for such a high degree of motor and eye-hand coordination in the testing procedure.

Because of the problems associated with administration of these tests it is possible that they could not discriminate between the A2 and B2 groups, even if differences do, in fact, exist in these variables.

The Templin-Darley Test of Articulation did not provide these types of problems in administration. Varying judgments of the examiners could influence these findings, however. Explanation of why the B2 group scored significantly higher than the A2 group in post-testing cannot be accounted for at this time. Since the same kindergarten teachers were involved with both groups of children, it seems likely that similar kindergarten programs were experienced by children in both groups, with equal opportunity for language experiences.

C. Articulation with Kindergarten

If children who experience a summer Project Headstart program have a greater degree of conceptual maturity, are they ready for a different kindergarten experience than those who did not attend Project Headstart? Should these children be grouped together? Should their learning experiences be different from others', and if so, in what way?

Consideration of this problem will probably reveal one's view with regard to grouping practices. Without attempting to become involved in the relative merits of the various grouping patterns, it does seem possible to rationalize a good case for separate kindergarten classes for Project Headstart children, without suggesting homogeneity, as evidenced by large standard deviations in many of the tables of the study.

It would seem reasonable to suppose that the Project Headstart children are ready for learnings that build upon what they have already experienced and that their non-Headstart counterparts will need to begin at a different point. While it could be argued that the B2 group could "catch up" in eight weeks (the length of the summer Project Headstart program), it must be remembered that class size, numbe r of adults available for individual attention, or funds available for trips and equipment may not be as advantageous in the public school kindergarten as in the summer Project Headstart program. It is probably not the case that eight weeks of kindergarten are the same as eight weeks of Project Headstart; thus a longer time period may be necessary for the non-Project Headstart group. Considering the great range of needs found in any group of kindergarten children, it might be considered justifiable to group Headstart children into separate kindergarten classes where this is feasible to take fullest advantage of possible learning gains.

Should the kindergarten year be conceived as an additional year-long compensatory program, helping culturally disadvantaged children continue with their 'headstart"? If this should be the

case, a different focus and organization may well be in order. This involves funding and the willingness of local school districts to accept and implement educational innovations. For example, should some of the characteristics of the Project Headstart program be continued through the kindergarten year (small classes, aides, numerous broadening trips, etc.)? Further study of methods and materials and organization are in order to gather additional information regarding successful learning conditions.